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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,770	07/17/2006	Roger Scattergood	M0106.70021US00	1614
23628 7590 07/29/2011 WOLF GREENFIELD & SACKS, P.C. 600 ATLANTIC AVENUE BOSTON, MA 02210-2206				
EXAMINER				
HINES, LATOSHIA D				
ART UNIT		PAPER NUMBER		
1775				
MAIL DATE		DELIVERY MODE		
07/29/2011		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/542,770

Applicant(s)

SCATTERGOOD, ROGER

Examiner

LATOSHA HINES

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19-27, 29-41 and 43-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19-27, 29-41 and 43-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No./Mail Date 08/24/2010, 02/03/2011, 02/07/2011
- 4) ☐ Interview Summary (PTO-413)
Paper No./Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-17, 19-27, 29-41 and 43-47 are pending and have been fully considered. Claims 18, 28 and 42 have been canceled. Claim 47 is new.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 03, 2011 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-17, 19-27, 29-41, and 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over WAKEFIELD (WO 03/040270 A2).

Wakefield discloses a fuel composition or fuel additives comprising particles of cerium oxide which have been doped with divalent or trivalent metal or metalloid which is a rare earth metal, a transition metal or a metal of group IIA, IIIB, VB, or VIB of the Periodic Table, meeting the limitation of claims 2-3 and 32. The cerium oxide must be of a nanocrystalline nature. For example, the cerium oxide should be less than 1 micron in size, and preferably 1-300 nm in size, as disclosed on page 1, lines 22-28, of Wakefield, thus meeting the limitation of claims 6-7. The metal or metalloid is disclosed on page 2, lines 16-29 of Wakefield. In particular, disclosed are Rh, Cu, Ag, Au, Pd, Pt, Sb, Se, Fe, Ga, Mg, Mn, Cr, Be, B, Co, V and Ca as well as Pr, Sm and Gd, thus meeting the limitation of claims 4-5.

Wakefield discloses on page 5, lines 10-20, that the coating agent is suitably an organic acid, anhydride or ester or a Lewis base. The coating agent is preferably an organic carboxylic acid or an anhydride, typically one possessing at least 8 carbons. A preferred anhydride is dodecylsuccinic anhydride, meeting the limitation of claims 8-11.

Wakefield discloses in claim 13 that the fuel is diesel, thus meeting the limitations of claim 12.

Wakefield discloses on page 9, lines 5-7, non polar organic solvents such as aromatic and aliphatic hydrocarbon, meeting the limitation of claim 13 and 41.

Wakefield discloses on page 10, lines 13-14, that the additives are added directly at the refinery. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the various refinery techniques of applicant's in the process of producing and making fuel for internal combustion engines, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416, meeting the limitation of claims 14-16.

Wakefield discloses on page 9, lines 10-30, that the cerium oxide is added together with one or more of detergents, dehazers, anti-foaming agents, ignition improvers, anti-rust agents, re-odorants, anti-oxidants, metal deactivators, or lubricity agents; thus meeting limitation of claims 17-18, 25 and 39-40.

Wakefield discloses on page 9, lines 10-11, that the detergents are hydrocarbyl-substituted amines and amides; for example, a polyisobutenyl succinimide, meeting the limitations of claims 19-24, 29, 33-37 and 43-46.

Wakefield discloses on page 8, lines 1-9, that the cerium oxide particles obtained are in a concentration of about 4 ppm, meeting the limitations of claims 26-27 and 30-31.

The examiner is of the position a reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545,549 (CCPA

1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968). In addition, "A reference can be used for all it's realistically teachings and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

Response to Arguments

6. Applicant's arguments filed 03 February 2010 have been fully considered but they are not persuasive.

- a. Applicant argued that Wakefield does not disclose or suggest that both cerium oxide and a detergent are added to a fuel together, that Wakefield teaches the incorporation of doped cerium oxide and detergent separately. The examiner disagrees. Although independent claim 1 has been amended to include the "consisting essentially of" language, for the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g. *PPG Industries v. Guardian Industries*, 156 F. 3d at 1355, 48 USPQ2d at 1355. The present invention does not disclose a reaction process between the cerium oxide and the detergent; therefore, it is obvious that the combination of cerium oxide, detergents, and other additives, would improve a fuel for an internal combustion engine, as taught by Wakefield.
- b. Applicant argued Wakefield does not teach one or more additives in a fuel composition. However, this is not deemed persuasive. Wakefield discloses on

page 9 lines 10-11, active additives such as: detergents comprising hydrocarbyl-substituted amines and amides for example a polyisobutenyl succinimide, an ignition improver, and a dehazer.

c. Independent claim 1 is drawn to a method which "consists essentially of" adding to a fuel the additives (a) and (b). The claim language of "improving the efficiency of a fuel for an internal combustion engine" is a statement of an intended use or function which carries no weight in the claim. The invention is a combination of various compounds and additives. The claimed invention is not directed to a **reaction** between a detergent and cerium oxide so it is not clear why the order of addition of the components is significant. Wakefield **specifically** teaches a composition comprising cerium oxide and a detergent which meets the limitations of the claims.

d. From the teachings of the reference, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention for improving the efficiency of the fuel. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LATOSHA HINES whose telephone number is 571-270-

5551. The examiner can normally be reached on Monday thru Thursday from 8 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Marcheschi can be reached on 571-272-1374. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LATOSHA HINES/
Examiner, Art Unit 1775

/Ellen M McAvoy/
Primary Examiner, Art Unit 1771